



THOMAS G. NEWMAN,  
EDITOR.

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**Mother!** Of all the words in our language, this is the holiest and grandest! To our minds, it presents the purest love, the most unflinching affection, and the tenderest care. The death of a mother severs the holiest tie in this world, and overwhelms the surviving family with sorrow. This is the case to-day with the editor of this JOURNAL. His mother has just passed to the "haven of rest" after 86 long years of toil and sorrow; having spent just one-half of her years (43) as a widow. She died at Kent, Portage County, Ohio, on Thursday, Oct. 7, 1886, and was there buried last Sunday. Death in this case was not unexpected, for our mother has been awaiting the angel's call for many years—and now, she has gone only a few years before us. We are all following one another to the tomb—and soon our time will come. Our faith and hope lead us to look for a re-union on the other shore of all the loved-ones who have gone before us, for

"Part of the host have crossed the flood,  
And part are crossing now."

A Company has been organized to be known as "The International Honey Co.," whose intentions are to establish apiaries in Cuba, the United States and Canada. They have accordingly made all arrangements to sail from New York on Oct. 14, for Cienfuegos, Cuba, with everything necessary for the equipment of a first-class apiary, at which place they intend to locate and establish a large apiary during the coming winter. During the summer season, when the bloom of Cuba does not yield nectar in sufficient quantities to render the business profitable at that island, they intend to come north (where they already have one apiary), and locate their next in Middlesex Co., Ontario. The Company is composed of A. T. Finn, H. E. Hill and R. M. Muller. In this they calculate upon obtaining good results by having a honey-flow the whole year around. They will report the result of the experiment in the BEE JOURNAL in due time.

**The Canadians in London**, who have charge of the Canadian honey at the "Indian and Colonial Exhibition," are being received with open arms by the British apiarists. On Wednesday, Oct. 6, at 2 p.m. the British Bee-Keepers' Association had a luncheon, at which the Colonial bee-keepers were their guests. They all visited the Colonial exhibit of honey in a body, and at 5 p.m. held a conversational meeting. Mr. J. M. Hooker, in the *British Bee Journal*, thus describes the exhibit and exhibitors:

About 40 tons of Canadian honey have arrived at the Exhibition, and are now being unpacked, and will be all in order by the end of this week.

There are four gentlemen who are delegated by the Ontario Bee-Keepers' Association to see to the whole thing, and right well they appear to be doing it. Our old friend Mr. D. A. Jones, of Beeton, is one. Mr. Cornell, of Lindsay, Mr. McKnight, of Owen Sound, and Mr. Pettit, of Belmont. By accident I met Mr. Jones, who introduced me to the others; they represent different parts of Ontario, living over a hundred miles one from the other. I spent part of last Thursday afternoon with them, seeing them unpack some of the comb honey, which you will be pleased to hear has come with few breakages. There are 15 tons of comb honey of very good quality, principally clover honey; the packing was very cleverly done, and has well repaid them for the great care and skill bestowed upon it by the result. They were most courteous to me, and gave me every information, and look forward to making the acquaintance of some of our fraternity. All bee-keepers should make a point of seeing this grand exhibit.

We congratulate our Canadian friends upon the success attending their adventure.

**Death** interferes with everything, and will in all probability interfere with the editor's arrangements to be at the Indianapolis Convention on the first day. He will be there, however, as soon as he can return from the East, whither he has been summoned by telegraph to attend his mother's funeral.

**Red Clover Honey** has been gathered quite freely in many localities this season. It is quite thick, having considerable body, but the flavor is not nearly as good as that from white clover, while the color is darker than the amber honey from fall flowers.

**Money Orders** can now be obtained at the Post Offices at reduced rates. Five dollars and under costs now only 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them, and are in no way safe.

**Exactly So!**—The *American Apiculturist* for November contains the following offer:

The AMERICAN BEE JOURNAL is the best weekly bee-paper published in the English language. Price, \$1 per year. If any new subscribers to the *American Apiculturist*, or those who renew or desire to take the Weekly BEE JOURNAL, we will send both papers for \$1.70. The above offer is to commence with the November number of the *Apiculturist*.

Of course we will make the same club rate for the two papers, when sent to this office. The change in management has resulted in an infinite improvement in the tone of the "Apl." We wish it success.

**Bee-Keepers** have themselves to blame for many of the "mistakes" now so commonly made when speaking of matters concerning the pursuit of bee-keeping. An extensive advertiser for years persisted in calling comb foundation by the mistaken cognomen of "artificial comb;" thus giving the only plausibility to the "scientific pleasantry" of Prof. Wiley. Others talk and write about bees *making honey*, when they know full well that they simply gather what is already made in the blossoms by Nature. In the *Prairie Farmer* Mrs. L. Harrison makes a good point on the latter in these words:

A person would suppose, by reading Mrs. Lizzie E. Cotton's advertisement, that her hive *made* honey, instead of the bees gathering it. All this fuss and feathers about bees producing more honey in *my* hive than in yours, is all moonshine. Elisha Gallup once said very truthfully, that "other things being equal, a colony of bees will build as much comb, and produce as much honey in a nail-keg as in any hive, and they will produce as much honey in my nail-keg as in yours." This is one of the axioms of bee-lore, that bees will store as much honey in a hollow tree, log-gum, salt barrel or box-hive, as in any controllable or reversible hive made.

Movable frame hives give ease and comfort in manipulation, and sections in which honey is to be stored only enhance its market value.

The *Bee-Keepers' Magazine* for October contains the following:

We see *City and Country* still publishes that advertisement of Lizzie E. Cotton, who is a fraud, though we sent them a marked copy of the magazine containing our article upon her workings. It is rather anomalous to see the advertisement of a prominent Bee Journal on the next page to hers (or his). We should think the ads. would fight.

The Bee Journal mentioned is the AMERICAN, and the point is well taken. The publishers of *City and Country* are imposing on us by inserting Lizzie's advertisement when they ought to know that she has been repeatedly published as a fraud by every reputable bee-periodical in America.

**Some Gross Libels** on bee-keepers appeared in the Rochester, N. Y., *Morning Herald*, of July 13, 1886. A man by the name of McDowell, who had an experience of a few weeks in keeping bees, was stated by that paper to be "an expert apiarist," and is responsible for this remark:

Rather sharp practice is employed by some bee-keepers, who place glucose near their hives and allow the bees to draw from it instead of from the natural source. This enables the bees to fill their combs quickly, and produces a bluish white honey which is more pleasing to the eye than flower honey.

This statement is damaging to bee-keepers of that locality, and we wrote the editor to correct it; but it has not been done. We now therefore publicly call upon Mr. McDowell either to prove his assertion or to "take it back," in the *Herald*. We ask no favors—all we want is justice.

**J. R. McLendon**, Stoddard, Montgomery County, Ala., wishes to correspond with all the bee-keepers in Alabama relative to organization, and requests every one in that State to send him a postal card, giving name and address. Now let Alabama be heard from with a strong society of bee-keepers.

## QUERIES

AND

### Replies by Prominent Apiarists.

[It is useless to ask for answers to Queries in this Department in less time than one month. They have to wait their turn, be put in type, and sent in about a dozen at a time to each of those who answer them; get them returned, and then find space for them in the JOURNAL. If you are in a "hurry" for replies, do not ask for them to be inserted here.—ED.]

### Rearing Queens.

**Query, No. 321.**—1. If queen-cells are inserted in colonies about Sept. 10; will the young queens lay that year? If not, when will they lay? 2. Would it be better to wait until the next spring before inserting queen-cells?—E. & W.

You had better wait until spring, in our locality.—DADANT & SON.

1. In all probability they will lay in the fall. If they do not they will probably be worthless. If the cells are good ones I would put them in in the fall.—W. Z. HUTCHINSON.

1. It depends mainly upon the locality. If in this locality, no; if farther south, probably they would. 2. I should prefer to do it in August, about the 5th to the 10th.—G. M. DOOLITTLE.

1. It will depend upon the length of the season and the quantity of flying drones; but probably they would not. 2. Yes, most certainly. If the old queens are failing, the best plan is to insert young fecundated queens at once.—J. E. POND, JR.

1. In my locality I would not do it. If I should, some of them, perhaps most of them, would lay that year, but I should not count on them being the best of queens. Of the balance a few would lay the next spring; the majority, never. 2. You had better wait until the honey harvest.—C. C. MILLER.

Much depends upon the season. If they did not lay the same year, they would next, if they became fecundated the same year as hatched. I would strongly urge postponing the entire work till 1887.—JAMES HEDDON.

I should say it was too late here. We usually have frosts by Sept. 15, after which work with bees is not desirable. I prefer to rear queens when bees are active. Again, we might not have any drones so late; very frequently we do not.—A. J. COOK.

You can insert your cells at the above time if you have drones to fertilize the young queens. If fertilized, they will lay the same fall, if in the South; but if in the North, they may not lay before the next season.—J. P. H. BROWN.

Yes, but the plan suggested is not a practical one, as more than half of

the cells will be torn down and the bees be left queenless. The proper way is to take out the queens, and in nine days cut out all the queen-cells. Then introduce a small piece of comb with just hatching brood from the best queen, and there will be no failure and no great trouble. It is the best way to change all inferior stock.—G. L. TINKER.

If you have plenty of drones and some honey is being gathered, you will succeed very well in September. I much prefer to have good queens in the hives when spring opens. If the young queens are mated in the fall, they will be all right whether they lay in the fall or not.—G. W. DEMAREE.

Not knowing your locality I cannot say, but in my locality (Southern Michigan) I should prefer to wait until spring.—H. D. CUTTING.

### Best Capacity of Brood-Chambers.

**Query, No. 322.**—How many frames of the Langstroth size should the brood-chamber contain to give the queen sufficient room, get the most honey, and least increase, or most honey and money?—Ontario.

Eight would be my choice.—G. M. DOOLITTLE.

From ten to twelve.—DADANT & SON.

Through the honey harvest perhaps not more than six.—C. C. MILLER.

This varies with queens. I think eight frames enough. Ten are certainly sufficient.—A. J. COOK.

In my locality ten frames gives the best results as a general thing.—G. W. DEMAREE.

If you work for comb honey, eight or nine frames are sufficient; but if for extracted honey, I would advise ten to twenty.—J. P. H. BROWN.

With an invertible hive seven frames will give the queen ample room, and get the most honey and money. It will depend upon the management, however.—G. L. TINKER.

It depends upon the queen. I would have the brood-nest of such size that an ordinary queen could keep it full. I prefer eight combs in the spring, and five the rest of the year. With a large brood-nest there is less swarming. I get the most surplus with a small brood-nest.—W. Z. HUTCHINSON.

When I knew no better way than to keep the brood-chamber one size all the year around, I used and preferred the capacity of eight Langstroth frames; but with the new system of horizontal contraction and expansion, reduced to quick, practical manipulation, I use and prefer the capacity equaling ten Langstroth frames for about one-fourth of the year, and half of that for the other three-fourths; or thereabouts, according to circumstances too numerous to mention here.—JAMES HEDDON.

Mr. Langstroth decided upon ten frames, and my own experience proves to myself that he is right. It is, however, a question of locality and method of management.—J. E. POND, JR.

This is one of the many undecided questions of the day. Locality makes a difference, and the manner of working and securing honey a great difference. Some want six, others seven or eight, while others want only half the capacity of eight.—H. D. CUTTING.

### Fall Honey for Winter Stores, etc.

**Query, No. 323.**—1. Is fall gathered honey safe or not for winter stores? If not, why? 2. In what way or manner does cold add to the danger of wintering?—A.

1. I regard it perfectly safe. 2. In the latitude of Augusta, Ga., the coldest weather has no injurious effect upon bees if they have plenty of stores.—J. P. H. BROWN.

1. It is usually. It is not safe in a wet season, if it has not been thoroughly ripened. The floating pollen may make it more unhealthy also. 2. In my experience it is; I have never found it to injure my bees, and have always used it; the essential point is to have the honey well ripened.—J. E. POND, JR.

1. I consider it safe. 2. It causes the bees to consume much honey as fuel, and debars them from frequent flights, as nature requires where much honey is consumed.—G. M. DOOLITTLE.

1. If it is not safe it is probably because it contains considerable nitrogenous matter. 2. It confines the bees to the hive, and increases the consumption of honey.—W. Z. HUTCHINSON.

1. Fall-gathered honey is perfectly safe for winter stores for my bees. 2. Protracted cold is a condition unfavorable to healthful exhalation from the bodies of the bees, and is likely to bring about a dropsical affection dangerous to the lives of the bees. The greatest danger from protracted cold in this climate is, it sometimes prevents the bees from reaching their stores, and starvation is the result.—G. W. DEMAREE.

1. I consider fall honey as safe as any, one year with another. 2. A low temperature compels activity, and this causes waste of tissue, and this calls for nitrogen, which induces the bees to consume bee-bread, and this loads the intestines, and the bees, unless able to fly and void, become sick.—JAMES HEDDON.

1. All honey gathered from flowers is safe for winter stores, if it is well ripened. If gathered late and left thin it is not. 2. Cold tends to cause bees in winter confinement to become uneasy or restless. I think it would affect bees about the same as it would a thinly clad man on a cold winter night. If he did not bestir himself he would get into trouble, and so with



the bees. Restless bees soon become worn out, suffer rapid waste of tissue and loss of vitality. Increased consumption of food may repair the waste, but not the loss of vitality. Nor is their relief in frequent flights. For half the winter bees must remain in a torpid condition to winter well.—G. L. TINKER.

1. Some of it is, and some is not. In general, I think it is. To the other rather strange part of your question I might reply, because they do not winter safely on it. 2. I suppose for one thing it is a tax on the vital energies, the same as on the human system; and besides it induces a greater consumption of food, thus distending the digestive organs; but after all I do not know much about it.—C. C. MILLER.

1. If good honey, I think it is just as good. A year ago last winter I removed all early gathered honey and gave a number of colonies only fall honey. All the colonies wintered excellently well; yet many bees died all about me. I believe real honey from flowers is all right, no matter when gathered. 2. It irritates bees, causing them to exercise and feed without the possibility of flight.—A. J. COOK.

### Convention Notices.

☞ The Wabash County Bee-Keepers' Association will meet at Wabash, Ind., on Oct. 23, 1886. AARON SINGER, Sec.

☞ The Sheboygan County Bee-Keepers' Association will meet at Chandler's Hall, at Sheboygan Falls, Wis., on Saturday, Oct. 16, 1886, at 10 a.m. MRS. H. HILLS, Sec.

☞ The annual meeting of the Western Bee-Keepers' Association will be held in Pythian Hall (11th & Main Sts.), at Kansas City, Mo., on Oct. 27-28, 1886. P. BALDWIN, Sec.

☞ The next annual meeting of the Michigan State Bee-Keepers' Association will be held in Ypsilanti, Mich., on Dec. 1 and 2, 1886. H. D. CUTTING, Sec.

☞ The Southern Illinois Bee-Keepers' Association will hold its next meeting at Benton, Ill., on Thursday, Oct. 21, 1886. F. H. KENNEDY, Sec.

☞ The Union Bee-Keepers' Association of Western Iowa will meet at Stuart, Iowa, on Saturday, Oct. 16, 1886. All interested in the busy bee are requested to be present. J. E. PHOEN, Sec.

☞ The Semi-Annual meeting of the Central Michigan Bee-Keepers' Association will convene in Pioneer Hall, in the Capitol Building, Lansing, the third Tuesday of October, at 10 o'clock, a.m. J. ASHWORTH, Pres.

☞ The Illinois Central Bee-Keepers' Association will hold its next meeting at Mt. Sterling, Ill., on Nov. 24 and 25, 1886. J. M. HAMBAUGH, Sec.

☞ All are respectfully invited to attend the next meeting of the Bee-Keepers' Association of Eureka Springs, which will be held at Eureka Springs, Ark., on Oct. 23, 1886. Business of importance to every bee-keeper Northwest Arkansas will be before the meeting. DR. S. S. PURCELL, Sec.

☞ The next annual meeting of the Nebraska State Bee-Keepers' Association will be held in Lincoln, Nebraska, on Wednesday, Jan. 12, 1887. Location of Hall to be used and Hotel accommodations will be given after further arrangements have been made. H. N. PATTERSON, Sec.

☞ Frank Cheshire's new book on Bees and Bee-Keeping, can be had at this office.—Vol. I, bound in cloth, \$2.50, postpaid.

## CORRESPONDENCE

**Explanatory.**—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the center of the State named; ♂ north of the center; ♀ south; ◊ east; ◊ west; and this ♂ northeast; ◊ northwest; ◊ southeast; and ♀ southwest of the center of the State mentioned.

For the American Bee Journal.

### Display at the Provincial Exhibition.

WM. F. CLARKE.

The Provincial is the most important agricultural exhibition in Canada. It embraces the entire province of Ontario, and is managed by an association to which the Government makes a grant of \$10,000 a year. It is a peripatetic institution, and is held at Ottawa, Kingston, Toronto, Hamilton, London, and Guelph in rotation. This year it was at Guelph, and it has made no small stir in our little city. The exhibition as a whole was exceptionally good, especially in the horse, cattle, and implement departments. The Provincial does not offer so tempting a prize-list for honey and apiary supplies as the Toronto Industrial, hence the competition is to a large extent local. There is a jealousy between the officials of these two organizations growing out of the rivalry between them, and as Mr. Jones has from the first been a leading spirit in the Toronto Industrial, I think he does not show at the Provincial. At any rate he did not this year. It must be acknowledged that the Toronto Industrial shows a far higher appreciation of bee-keeping than the Provincial. It appropriates a whole building to this department, while at the Provincial honey is dumped in with cheese, butter, sugar, bacon, cured meats, maple syrup, domestic wines, and a lot of sundries. Bee-keepers generally are "down" on the Provincial, for not encouraging their industry more liberally. They do not refuse to exhibit, but their "best licks" are put in at the Toronto Industrial.

This year there was a better display of honey and apiarian supplies at the Provincial than usual. The old non-descript hive which has raked in the prize from time immemorial was left at home, and the Langstroth, Blackburn, Shuck, Chataqua, and other hives made up quite a variety. E. L. Gould & Co., of Brantford, had a large and showy collection of apiarian supplies in charge of Mr. R. F. Holtermann, conspicuous among them being the Stanley automatic extractor in the sizes.

Mr. R. L. Meade, of Nassageweya, had the largest display of honey, com-

prising about 2,500 pounds of extracted, and 500 pounds of comb. It was the general opinion that he was entitled to the first prize on both extracted and comb, but his extracted was all in tins varying from one pound to fifty, while Sanders & Co., in addition to an assortment of tin packages, had a lot of very tasteful glass packages. In consideration of the extent and excellence of his display, he was awarded a diploma. The undersigned took first prize for honey in the comb not less than 10 pounds, for two reasons: first, use of tin separators, and second, removal of sections as soon as finished, so that they retained their snowy whiteness. Of these two points let all intending exhibitors make a note.

The last two days of the Fair were very warm, and some of our exhibitors having embarked in selling honey in quarter sections to be eaten on the spot, as a natural consequence bees from adjacent apiaries were attracted in large numbers, until every lunch stand and confectionery stall swarmed with them. I did not hear of any complaints of people getting stung, for it is astonishing how strictly bees attend to business under such circumstances, gathering what little sweet they can regardless of surging crowds of people. But it started the enterprise of robbing among our city bees. The day after the exhibition closed the bees made a diligent search for the lost show, only to find here and there a lady making jelly or preserves.

In the afternoon, a bright little boy came in hot haste to my house, exclaiming, "Mr. Clarke, haven't you lost a swarm of bees?" "No, sonnie." "Well, there's about a thousand at Mrs. J's, and she wants you to come and fetch 'em home right away." "I can't do that," I replied, "I might be stealing. I do not know whose bees they are. Some of them are mine, no doubt, but I couldn't pick them out from the rest, and I wouldn't like to take any bees that don't belong to me. Tell Mrs. J. to leave the door and windows of her kitchen open till dusk. The bees will all go home to their proper owners. To-morrow (Sunday) she won't be making jelly, and she can keep the door and windows shut." To-morrow, happily, was cool and wet, so "the plague was stayed."

I subjoin a list of prizes and prize-winners:

Best display of extracted honey in marketable condition, Sanders & Co., Guelph, \$10. J. R. Morrison, Guelph, \$5.

Best display of honey in the comb and in marketable condition, R. L. Meade, Nassageweya, 1st and 2nd prizes, \$10 and \$5.

Best honey in the comb, not less than 10 pounds, Rev. W. F. Clarke, Guelph, \$8. R. L. Meade, \$6. F. M. Benham, \$4.

Best jar of extracted honey, A. Gilchrist, \$4. J. H. Welsh, \$2. F. McIntyre, \$1.

Best beeswax, not less than 10 pounds, J. R. Morrison, \$3. R. L. Meade, \$2.

Best bee-hive, R. L. Meade, \$3. E. L. Goold & Co., Brantford, \$2. Rev. W. F. Clarke, \$1.

Best wax-extractor, E. L. Goold & Co., diploma.

Best honey-extractor, E. L. Goold & Co., diploma.

Best and largest display of apiarian supplies, E. L. Goold & Co., silver medal.

Guelph, Ont.

For the American Bee Journal.

## Marketing Honey—Feeding Sugar.

G. A. BRUNSON.

I have been an observer of the course of bee affairs and interests for some years, and I have come to the conclusion that bee keepers give the profits of their enterprise to the retailer, as I have learned that the consumers pay 20 cents per pound to the grocers in Chicago for the same honey that I sell at home for 10 cents. This exorbitant retail price exacted by the grocers for honey in our large cities, limits the sale of our produce to a few who have money for luxuries. This class of purchasers are in such a minority compared to the number of honey lovers, that the market in our large cities is easily overstocked; hence our cheap wholesale prices.

I notice in the address of Mr. S. C. Gridley, on page 582, a plan which I think if followed out would be of untold benefit to the bee-keepers of California, and not only that, but a like system in other central localities, or chief commercial centres of the United States would be a great benefit to the bee-keepers—a place where they could ship all their surplus over home consumption, to some warehouse where it would wait its turn and not have to be sold at a sacrifice in order to get rid of it, as we have heard of parties who have large quantities, getting scared by market reports, or not knowing where to ship or what to trust. Such bee-keepers sacrifice on a large quantity, killing the market for all others the rest of the season.

There is the item of feeding sugar, which we bee-keepers, I believe, are apt to look at in the wrong light. My observations have been that for every pound of sugar the bee-keeper buys for feeding bees, throws one pound of honey out of the market. Sugar is an inferior food for bees, and often costs more per pound than fall honey can be sold for; and if the apiarist has been feeding a large quantity of sugar, he will have all the more fall honey to crowd on the home market, or to sacrifice on in a foreign market, or perhaps carry over until another year. Then he will see that he is out just what he paid for sugar, and the sale of an equal number of pounds of honey that nobody wants.

I found myself in about the same predicament the past summer, as my old dark honey weighed about the same as the amount of sugar I had fed the fall before, and now I feel quite sure that I will not feed any

more sugar as long as I have the dark honey; but I shall follow the course I did this season, as near as I can, and that is, to take off the supers of white honey before the fall or dark honey is brought in, and not put on any more supers until the hives are heavy enough for winter, then put on the supers if more room is needed, and take whatever they put in for my share of that season's crop.

By the above plan it is easy to be seen how we can prevent the buying of sugar or feeding honey, and have our colonies heavy for the coming winter, with nice capped stores, as they seem to cap it better when they bring it from the fields than when it is fed to them.

Plymouth, Mich.

Canadian Bee Journal.

## Subsoil vs. Jones.

S. CORNELL.

A case against a bee-keeper tried at sea, and successfully defended without aid from the Manager of the Bee-Keepers' Union.

ON BOARD S. S. SARDINIAN,  
NORTH ATLANTIC, Aug. 26, 1886.

Bee-men are noted for being ready to talk about their specialty on every possible occasion; the delegates in charge of the Ontario honey exhibit at the Colonial and Indian Exhibition are no exception to the rule in this respect. Conversations with their fellow passengers on board were often turned so as to bear a reference to bees and honey. Should a passenger tell a story about the methods by which travelers are often blackmailed, Mr. Jones would match it by telling how he got even when the custom house officers and boatmen at Beyrout attempted to levy "back-sheesh" on him when bringing bees from the Holy Land to Cyprus. One of his cylinders was so full that he feared the bees would be suffocated. Pretending to abandon the bees rather than submit to their demands, which amounted to about \$25 for two hives, he opened this hive and allowed about a gallon of bees to escape. This caused a general stampede, the bees driving both boatmen and officers under cover. He then deliberately placed his bees in a boat and rowed to the steamer, which had been waiting for him half an hour, the owner of the boat lying in the bow with his head covered most of the time. Before long the Canadian bee-men on board were the best known among the passengers. Their statements regarding the benefit of bees in fertilizing the crops of the agriculturist, and the virtues of honey as a food and medicine, were not always allowed to pass unchallenged. The outcome of the opposition was that Capt. Hamilton, manager for a shipping firm in Scotland, over the assumed name of "Subsoil," made a demand in writing upon Mr. Jones for \$1,000 for damages done to his pastures by Jones' bees in extracting the honey from the clover, and for annoyance to his family from

the stings of the bees, and loss of property caused by the bees stinging his sheep and cattle. Mr. Jones refused to accede to any such demand, stating that the bees were not only not injurious, but were a positive benefit to his neighbors' pasture. Here was a direct issue. Arrangements were soon on foot for the organization of a court to try the case.

Capt. Smith, of the "Sardinian" was consulted, and he fell in with the idea at once, expressing his willingness to go into the witness box himself and testify against Jones. Soon the arrangements were all complete. Mr. Dennistoun, of Edinburgh, Scotland, arrayed in a fur cloak and ample wig, made by the boatswain for the occasion, filled the position of judge with dignity and ability. Mr. S. Carsley, a leading merchant of Montreal, acted as counsel for the prosecution, and Mr. R. McKnight, registrar for North Grey, Ont., acted as counsel for the defence. Mr. Andrew Allan, of Allan Bros. & Co., Montreal, was chosen as foreman of the jury. Amongst the jurors were a gentleman recently from Hong Kong, China, an editor from London, a banker from Ontario, a stock raiser from British Columbia, and another from Manitoba, and a gentleman from Stratford, England.

Mr. Carsley, in opening the case for the prosecution, stated in a clear and succinct manner that his client's land produced the clover blossoms which supplied the defendant's bees with honey, that the secretion of honey in the clover-heads increased the food value of his client's pasture, or it would not be there; that since the defendant established his beehive in the neighborhood his client's stock had been failing; that his cows gave less milk and of poorer quality than formerly; that his sheep were poor, and, therefore, less valuable; and that his client's family required medical assistance more frequently than they did previous to the establishment of the defendant's beehive. Since these losses were directly traceable to the defendant's bees, he claimed that it was only just that defendant should remunerate his client to some extent for the damages he sustained. Evidence was produced to sustain this contention. Great merriment was caused by Capt. Smith, who as Hodge, a servant of the plaintiff, testified that his master's stock were failing of late; that this was caused by Mr. Jones' bees, and not by carelessness, especially since he took charge; that on one occasion he took Miss Buttercup, the dairymaid, out for a drive with his master's horses and carriage, that one of Jones' bees attacked the "horses" causing them to run away and break the carriage; that he captured that bee to show to his master, and that it was about 2½ inches long, and was one of those Eastern bees Jones brought from somewhere. This evidence was confirmed by that of Miss Buttercup. The counsel for the defence, in cross-examination, labored unsuccessfully to induce her to admit that at the time the accident occurred

Hodge was but had haged.

The ship testified the soil had re frequently often call hives and bee-sting examina increased to some e more frequ el for the tion him in his ex was obje counsel. objection of the fac of the ki the court the publ some lat facts befo then stat lacteal fl as there vegetabl secrete n to attraa plenishes The wit ranks his article o partially in a con by the a ach and and the bread re the saliv glucose and pas also sta medicin

For t was th stated t farm of over 100 cows, a records that hi milk as whethe vicinity his mi highest for year prizes always has no observ and bu those a miles the ot as mu

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Hodge was not minding his horses, but had his attention otherwise engaged.

The ship's surgeon was called and testified that the family of Mr. Subsoil had required his assistance more frequently than formerly; that he was often called upon to prescribe for hives and erysipelas, resulting from bee-stings. He admitted on cross-examination that Subsoil's family had increased rapidly of late, which would to some extent account for his being more frequently called in. The counsel for the defense proceeded to question him as to facts not brought out in his examination in chief. This was objected to by the opposing counsel. His lordship held that the objection was well taken, but in view of the fact that this was the first case of the kind which had come before the courts, and of its importance to the public, he would allow counsel some latitude in order to get all the facts before the jury. The witness then stated that as in animals the lacteal fluid is only secreted so long as there is a demand for it, so in the vegetable kingdom the blossoms secrete nectar as long as it is needed to attract insects, and that it is replenished as fast as it is gathered. The witness stated further that honey ranks high among the sugars as an article of food because it is already partially digested by the bees, and is in a condition to be at once taken up by the absorbent vessels of the stomach and assimilated, while cane sugar and the starches of potatoes and bread require to be first changed by the saliva and pancreatic juice into glucose before they can be assimilated and passed into the circulation. He also stated that honey has important medicinal properties.

For the defense Mr. S. T. Pettit was the first witness called. He stated that he owns and manages a farm of 150 acres, on which he keeps over 100 hives of bees, about 15 milch cows, and from 20 to 30 sheep. The records at the cheese factory show that his cows gave at least as much milk as do those of the other patrons whether there are bees in their vicinity or not, and that for richness his milk stands amongst the very highest. His Southdown sheep have for years taken most of the leading prizes at the local shows, and he has always shown them off the grass and has not fed grain. He has frequently observed that his crops of clover seed and buckwheat are far in excess of those of his neighbors, who are three miles or more from bees, although the other circumstances were at least as much in their favor.

Mr. S. Corneil gave evidence to the effect that in the vegetable kingdom there is a constant struggle for the survival of the fittest, that the weak specimens are crowded out by the stronger, and that the strongest and most perfect plants can only be secured by cross fertilization; that the methods resorted to by plants to secure cross fertilization are often curious and interesting, amongst which are bright colors in the blossoms, strong odors, and the secretion

of nectar to attract insects, which carry the pollen from flower to flower; and that the constituents of the nectar are not drawn from the soil, as is often supposed, but are absorbed by the plant from the air. In reply to counsel, he stated that a certain number of clover heads were covered with gauze to protect them from insects, that the seeds of these and the seeds of an equal number of heads unprotected were counted, and that the seeds of the latter were as three to one of the former. Witness continuing, said that Chas. Darwin had made the apparently bold statement that the crop of clover seed depended, in a measure, upon the number of old maids in the country, because old maids were proverbially fond of cats; the more cats the fewer field mice. The queen humble-bee hibernates through the winter in the nest of a mouse better than anywhere else, and as a rule they are the only bees whose tongue is long enough to work on red clover, so the fewer mice the fewer deserted nests, and therefore the fewer humble-bees to fertilize the crop of the next season. The witness had learned from his lordship the bishop of Rupert's Land, who was a passenger on board, that in the city of Winnipeg, where there are few bees, he had to fertilize the blossoms of his melon vines by hand or he would have little or no fruit.

In cross-examination the witness stated that Darwin was a very close observer, that while it was true that farmers dealt with facts, men like Darwin often discovered the facts which the farmers applied, and although the plaintiff only raised clover and not clover seed, if it were not for insects it would be a question of only a very short time till there would not be a pound of clover seed to be obtained.

The defendant was called and testified that 100 colonies of bees would exhaust all the bee-pasturage in 25,000 acres in a poor season, that as Mr. Subsoil only owned 200 acres, and wanted \$1,000, there would be 125 farmers claiming damages amounting to the sum of \$125,000. Consequently if Mr. Subsoil's claim were valid, bee-keeping would become an extinct industry.

So much interest was taken in the case that the court held three sessions before the trial was brought to a close. His lordship, the Bishop of Rupert's Land, was present during the whole trial, and manifested a lively interest in the issue.

The counsel for the plaintiff reviewed the evidence and appealed to the jury to do justice to his client. Throughout the trial Mr. Carsley showed marked ability as an amateur counsel.

Mr. McKnight addressed the jury in an eloquent speech of over half an hour's duration. He reviewed the evidence for the defense, dwelling especially upon the point that where there were no bees, melon vines had to be fertilized by hand to secure a crop, "and," said he, "for the privilege of saving Mr. Subsoil this labor my client is asked to pay \$1,000."

Instead of bees and stock being antagonistic, he alluded to the fact that while the land of Canaan was pre-eminently a grazing country its caves were also full of bees, and the country was referred to in the sacred writings as "a land flowing with milk and honey."

The judge summed up the evidence and charged the jury in dignified and appropriate terms. After a short consultation the jury brought in a verdict for defendant. Counsel for plaintiff gave notice of an appeal. All admitted that many interesting and valuable facts were elicited, and that the trial contributed to the enjoyment of the passengers during a pleasant voyage.

[Mr. Corneil introduces the above by stating that it was a case "successfully defended without aid from the Manager of the Bee-Keepers' Union." True; but it was out of his jurisdiction—on the high seas—and a bogus case, at that! However, some capital points were made, as will be noticed by the reader. We are glad our Canadian friends were so jolly on their voyage.—Ed.]

For the American Bee Journal.

## My Experience with Bees.

DAVID WILCOX.

Ten years ago I bought a small box-hive of bees, thinking to have some honey which would be easier produced than bought. In course of time I found a frame hive the best, and many other things I knew nothing about, until now I have 90 colonies, and supplies accordingly. I have also learned that fixtures cost money, with trouble and time to get them, which weighed heavily on the income from the bees. I had water power offered me for \$3 per month sufficient to work lumber and make my hives, etc., but as that would take me away from home and the care of the bees, I bought a wheel of about 400 pounds weight, hung upon rollers with treadle and small saws attached, so that my work was at home, and I could see to the yard and farm at the same time. Eighty or 90 square feet of lumber will make almost any kind of a hive, except the surplus arrangement. For whatever hive is preferred, take the measure of each piece, and cut lumber to match; when nailed and painted the hive is complete.

The past season has been very poor in this locality. In marketing honey I take from 100 to 500 pounds on an express wagon or sleigh, and go until it is sold. In almost every place there can be found those who are glad to keep a man for honey, and that reasonable. I disposed of 2,000 pounds in this way last year. I extracted 170 pounds from unfinished sections (last year) which sold in glass jars more readily in some towns than comb honey.

As I have been sick and unable to leave the house for a few weeks, I cannot report about this year's crop. Taking all things into account, bee-keeping is as profitable as farming, and to me much more pleasurable, knowing from experience that one can commence small and grow up with the business, or let the business grow up with him.

Many of the suggestions of the BEE JOURNAL are valuable, and must be an encouragement and help to all. I find myself following many of them. Orford, © N. H., Oct. 1, 1886.

For the American Bee Journal.

### The Illinois Central Convention.

J. M. HAMBAUGH.

Owing to a very enthusiastic gathering of the old war veterans and members of the Grand Army of the Republic, as well as citizens in general at Quincy, Ills., Oct. 19, 20 and 21, 1886, at the laying of the corner stone of the Soldiers' Home, the executive committee of the Illinois Central Bee-Keepers' Society have concluded to change the date of its meeting at Mt. Sterling, Ills., from Oct. 19 and 20, 1886, as heretofore published, to Nov. 24 and 25, 1886. We hope that those interested in the cause, will take pains to make public the change, and do all in their power to make the meeting a success.

Quite a number of prominent bee-keepers have signified their intention to be present, and each day brings additional evidence that the meeting will be one of unusual interest. The programme has been culled from a list of the most practical and instructive topics, and the query-box will be full, varied and interesting, and we solicit those who cannot be present, to send us by mail their queries which will be respected and placed upon the list. We append the following programme:

#### FIRST DAY—WEDNESDAY.

Forenoon Session, 10 a.m.—Convention called to order. Address by President Wm. Camm. Calling the roll of members. Payment of annual dues. Call and reception of new members. Reports of Secretary and Treasurer. Essay, "Reversible frames and reversible sectional brood-chambers, and hives—are they a valuable acquisition to bee-culture?" by C. P. Dadant, Hamilton, Ills.

Afternoon Session, 1:30 p.m.—President's annual address.—Essay, "Hives, frames and sections," by the secretary, Jos. M. Hambaugh. "Shall we use separators, if so what kind?" by J. G. Norton, Macomb, Ills. "Economy of supply and demand," by John Bush, Murrayville, Ills. Queries. Adjournment.

#### SECOND DAY—THURSDAY.

Morning Session, 9 a.m.—Communications. Essays: "Different races of bees," by President William Camm. "Marketing honey—best methods, how and when," by W. J. Cullinan.

Mt. Sterling, Ills. "Introducing queens," by Thomas S. Wallace, Clayton, Ills. Queries.

Afternoon Session, 1:30 p.m.—Receiving members. Election of officers. Miscellaneous business. Essay: "The wintering problem," by W. T. F. Petty, Pittsfield, Ills. Gratuitous queries. Explanation of articles on exhibition; criticisms, etc. Spring, © Ills.

For the American Bee Journal.

### Plain Sheets of Wax and Drone-Cells.

L. J. DE SOBOTKER.

My experience with plain wax-sheets is as follows: When comb foundation came into use years ago, I was running an apiary in one of the West India Islands, and I sent for some foundation, and received wired, flat-bottom foundation, which was very badly printed with cell figures scarcely perceptible, but all worker cells. I put it in unwired frames, and made the allowances all around the side and bottom-bars, and gave it to pretty strong colonies, and the bees worked it up into good worker-cell combs; but on several of them there was a small space occupied with drone cells, especially upon those worked up in the hives that had queens between 2 and 3 years old, and in the hives that had queens from 1 to 1½ years old the comb was all worker cells; this gave me the idea to try a few plain sheets of wax. I did so in both old and young queened colonies, and found the same result as from the badly printed sheets, with this difference, that the bees worked very reluctantly, in fact unwillingly, upon them, taking as much time to do it as they would have required in natural comb, and as far as I could observe they had to add material to them of their own make. I then tried a few strips of it from 2 to 4 inches wide, and they built worker cells on them, but they became honey cells after the balance of natural comb was completed, as is generally the case, no matter what sort of starters they commence with. The same result was obtained in the young and old queened colonies; the old having more drone cells than the young.

I think that Messrs. Dadant & Son's experience and observations differ somewhat from mine, as I find that bees generally build their combs to suit themselves, be it even on good worker-cell foundation, beginning at the middle of the top-bar, and pretty much in the shape of a heart, storing nectar and pollen just under the top-bar, even to the depth of 3 to 4 inches, and under this the brood, and wherever they think requisite they build in several drone cells by simply altering the worker cells into drone cells, and this without the fault of "sagging," "stretching," or the "manufacturers' altering of the wax." Again, others deposit drone eggs in worker cells (generally young queens), and then build up high above the surface of the comb, producing long, narrow-

bodied drones, whose value I question very much as stock for use in reproduction. This is the case right here in this apiary; the old queened colonies have altered worker cells into drone cells, and produced pretty stout fellows, too; it looks as if it was three worker cells used for two drone cells, and then the young queened colonies have long, narrow-bodied drones hatched from worker cells. I have used nothing this season but Viallon's and Dadant's brood foundation, the former slightly lighter than the latter. I have put both kinds into 1,000 frames, upon 6 wires, and one centre metallic stiffening bar in each; Viallon's foundation in sheets that fill up completely the Simplicity Langstroth frames; Dadant's foundation with the usual allowance on the side and bottom-bars for "stretching." They have not given the same result, although worked into the same hives side by side; Viallon's foundation gives a solid frame completely filled with solid comb, but with some drone cells among the worker cells, although the sheets when put in were all work cells; Dadant's foundation gives a frame of comb barely joined to the sides, and ¼ inch space from the bottom-bar; they were put in at the same time, and had the identical advantage of being worked up, as I kept them just where the bees would do their best with them, and that is in the centre of the brood or surplus chambers; these have also some drone cells in them, and when put in it was all worker-cell sheets. Now, according to Messrs. Dadant & Son, these bees must be exactly like Mr. Hays' bees, changing worker cells into drone cells to suit their wants, but not "worker combs into drone combs," as they observed, as all will admit that foundation cannot be called comb until it has been worked up by the bees.

They further state that "for 20 years we have had colonies which do not rear 100 drones yearly!" This is all well and good, but will they please examine carefully and see if it is not worker cells that these bees have changed into drone cells to produce those drones, be their numbers what they may, except they have been using drone combs contrary to their advice to others to use *only* worker cell foundation or combs. I believe that Mr. Hays' experience and results are pretty much like my own, and our observations as carefully taken and now reported in this matter, as *bonafide* as the next man's. Please inform us if we should put all worker cell foundation in the hives, which all experienced bee-keepers generally do now-a-days, especially those who use full sheets, and if the bees did not naturally alter some of them into drone cells to suit their wants, where would we be? Where would the drones come from? Man has certainly done and is still doing a very great deal towards improving apiculture, and assisting the labor of the bees; but *nature* and *bee sense*—not instinct, something higher—he will never succeed in changing, as drones they must have for the continuance



of their existence, notwithstanding we have checked their drone production to a very great extent by only giving them worker cell foundation or combs.

The bees in this apiary are still gathering nectar from the fall bloom, which has taken a good start after the few days of showery weather we have had lately, and if frost does not disturb these sunny and yet cool days, they may still gather a sufficiency to go into winter quarters, although we are preparing for that event independent of this bloom now on us.  
Riverton, Miss., Sept. 23, 1886.

For the American Bee Journal

## The Solution of Bee-Keeping.

J. W. TEFFT.

As intelligence increases the relations existing between the honey-bee and man are being better understood. Air is the first and constant condition of animal or insect life; and as the close relation which its purity bears to the physical health of the honey-bee is better comprehended, the greater is the demand for a perfect mode of protecting the bee from sudden changes of extreme heat and cold, by proper ventilation. Theory after theory has been promulgated only to prove to be failures when practically tested, and the world is to-day without practical authoritative system which will work under all circumstances. Why is all this? My answer is, that the application of theories to bee-keeping has been in the hands of scientific rather than practical men. Ever since Moses Quinby undertook to ventilate his hives at St. Johnsville, N. Y., what progress has been made in ventilation and protection from extreme heat and extreme cold, is shown by the condition of our bees every spring, and by the writings in bee-papers.

If the great scientific bee-men of the past and present have failed to establish a perfect system of protection from heat and cold, sudden changes, and for ventilation, one of two considerations must be arrived at, namely, there can be no perfect system established; and that these theory men have been working on a false basis.

The first conclusion must be discarded, for a perfect system of protection from sudden changes of heat and cold and proper ventilation can be established. The second conclusion is evidently the cause of failures. As the scientist has failed to give the world a true system, or one that may be relied upon for all time to come, would it not be better now to call upon persons who have practical understanding of bees and mechanics, as well as science, as relates to this subject; men who can combine natural laws of the honey-bee and mechanical principles in harmonious action? All that is required to produce a perfect system, is to have a perfect understanding of the natural laws of the honey-bee, and be able to apply them by the proper mechanical

contrivances to insure successful results.

Science, unassisted by a practical knowledge of mechanics, has not solved, nor can it solve this problem. The great problems of the day are being solved by practical men, men of advanced ideas, but who lay no claims to scholarly education, titles or renown. They are the men who are to evolve a satisfactory system. Bee-keeping is tired of reconciliations between two things which should never have been contrasted. Bee-keepers are offended by a patronage of an ally which it professes not to need, and critics have rightly discovered that in most cases where theory, science, is pitted against practical bee-management, or fused with it, there is some fatal misconception to begin with, as to the scope and province of either.

The AMERICAN BEE JOURNAL improves with each issue, and will improve as the honey-producers demand it. We as bee-keepers scorn the unworthy sheet which panders to low taste and places before bee-keepers, reading matter not pertaining to bee-keeping. Let us as bee-keepers make the most of the situation of things, and strive to use every instrument we have at hand for the service of the bee. I believe the AMERICAN BEE JOURNAL is a pure bee-paper which furnishes clean bee-literature of a high class for perusal by all high-minded bee-keepers, and will come to be one of these instruments. It certainly gives us the most sensible views. It publishes more bee-news and special views from every part of the world than all other bee-papers combined. It is not an organ, and neither apologizes for nor tolerates theories. It has opinions on all bee-subjects of the highest order. Its fundamental doctrines are for the general welfare. It has no subsidies or exclusive privileges for anybody.

Collamer, © N. Y.

For the American Bee Journal

## Notes of the Season.

J. F. LATHAM.

In this vicinity the apicultural prospect for 1886 opened auspiciously. When I made the first examination of my colonies, on April 20, the combs in most of the hives were well stocked with brood, and with few exceptions the condition of all was in an unusual degree satisfactory. A week of very fine weather followed, which gave the bees an impetus to increase their brood to such an extent that some of it was chilled during the severe weather that followed, though not enough to cause appreciable harm. The cold wave was succeeded by moderate weather, and although the sugar maples failed to bloom, the pollen from the willows and an abundance of surplus stores renewed the early bloom.

With the early fruit bloom swarming commenced on May 24, four days earlier than I have known it to com-

mence during my eight years of bee-keeping. From the above date until July 4, when the 36th and last swarm was disposed of, a lively experience gave me an introduction to the reality of modern bee-keeping. By July 10 the drouth had browned the white clover bloom, and the surplus season for comb honey virtually ended. During the four weeks that followed, bees scarcely made a living; several of my colonies required feeding to carry them to the fall bloom, having stored about all of their clover honey in the surplus boxes. By Aug. 20 the fall harvest commenced, from which was stored a goodly quantity of surplus and a bountiful supply of winter stores.

As a result of my apistical efforts for the past season, I have 1,500 well filled one-pound sections of clover honey; 400 pounds of extracted honey, and an increase of 21 colonies from natural swarms, making my present stock 50 colonies in good wintering condition as regards strength, food, health, etc. Retrospectively I have no reason to complain of the general behavior of my co-workers. All of the swarms staid where they were put the "first time." No swarms absconded or attempted to abscond. The young queens were remarkably vigorous, and but one was lost during her mating flight. Although a large majority of my bees are hybrids of the Italo-German variety, I can recall but two instances when I have received stings that caused swelling; and those were more the result of my imprudence than the habitual malignancy of the bees.

Generally speaking, the past season has been cold and dry, although enough light rains have fallen to keep vegetation green. The nights have been unusually cool, and but few days hot; notwithstanding, while the flowers were in bloom they yielded nectar quite profusely, which fact seems to be somewhat at variance with some of the theories regarding the requisites of good honey weather. If I am correct in my observation, the principles of distillation as practiced by nature and art, are but slightly, if at all, at variance.

The experience of last season, and thus far the present season, has led me to think that a more definite co-operative system on the part of apiarists should be adopted in selling their honey. The diction of prices, and methods of disposal should be more directly controlled by the producer and consumer. As a staple honey is increasing in prominence yearly, and its sale should be made by weight only. Much misrepresentation is often indulged by some of the "handlers" of honey, too many of whom are ignorant of its qualities, or the first principles of its production. The act of buying a lot of honey in sections weighing on an average 12 or 14 ounces, and on retailing, representing them to customers as "full pounds" does not enhance the price or sale of comb honey in a very substantial degree; for consumers soon become educated to the fact that the vender is making more money on less

honey, while they are obtaining less honey for their money, than were the commercial quantities represented in pounds and ounces, instead of "by the piece." This should not be. Let us insist that our honey be represented in its "handling" by the legitimate quantities—pounds and ounces.

In spite of the herculean efforts of the AMERICAN BEE JOURNAL to kill the hydra, the "Wiley pleasantries" like Banquo's ghost, "it will not down." In spite of the bulwark of the nineteenth century enlightenment, the idea (if it can be called an idea) exists that comb honey with its innumerable irregularities of finish, and delicacy of construction, can be fashioned by the uniform producing implements of mechanical art.

Cumberland, 9 Me., Sept. 29, 1886.

For the American Bee Journal.

### Apiarian Exhibit at Toledo, Ohio.

DR. A. B. MASON.

I wish to give an account of the exhibits in the apiary department at the Tri-State Fair, held at Toledo, O., last month. The exhibits in this department become more attractive each year. Mr. A. M. Gander, of Adrian, Mich., made a fine exhibit of both comb and extracted honey last fall, and this year did even better than last, and each year was justly awarded first premium on both, and also on best crate of comb, and on best quality of extracted honey. He was also awarded first premium on a Stanley honey extractor.

W. Z. Hutchinson did us the honor to make our exhibit more interesting and attractive than usual by exhibiting some fine comb honey and some very choice extracted honey. He also made a fine display of honey-producing plants, and was awarded premiums on all his exhibits.

Mr. L. Eastwood, an old grey-headed and enthusiastic bee-keeper of Waterville, O., made a good display of comb honey, which was awarded a premium. C. H. Christlieb was awarded a premium on a nice exhibit of Italian bees. Mr. H. H. Overmyer, of Lindsey, O., made a display of extracted honey, and sold all he had on exhibition, and took orders for a large amount besides. Mrs. Mason (that's my better half, you know) made a small but quite attractive exhibit of comb and extracted honey, on which she was awarded first premiums.

Being located near the Fair Grounds I made it a point to fill all the space not occupied by others. My honey exhibit was entirely of extracted. I had also Italian and Carniolan bees, and extra queens that attracted the usual amount of attention. A large lump of candied honey that I had on exhibition was the "innocent cause" of such remarks as, "See the sugar!" "O, what nice sugar!" etc., and it was just such remarks that we (bee-keepers) liked to hear, for it gave us the coveted opportunity to show and teach the people what pure extracted honey is, and that it will become

candied. But one lady turned up her sharp little nose at my (to me) excellent talk and would not believe a word I said about it being honey, and I could not persuade her to taste of it, but her husband (sensible man) tasted "and believed."

A lady in passing the hives where the bees were, said she did "not want any more honey if it was made by such nasty looking bugs as those." A boy said, "O, see the bed-bugs, see the bed-bugs, ain't they nice!" A lady wanted to know "how the bees could live when they could not get out of the hive to get anything to eat." But the best of all was a woman, with several children. There were a few dead bees lying on the bottom of one of the hives, by the glass side, and she told the children that "those are bees that would not work, and the other bees have killed them." The bees were dragging along a nearly dead one, and she said, "See! there is one that will not work, and they are killing it now." I thought "ignorance is bliss," etc., and kept quiet.

We have had the good fortune to get first-class judges for our department each year since it was first made a part of our Fair. The editor of the BEE JOURNAL certainly will not soon forget how he kindly came over 200 miles ("free gratis, for nothing") to help us make a good start, and with Messrs. H. R. Boardman and H. H. Overmyer, served as judge, when our exhibit was quite small; and how the next year, the editor with C. F. Muth, of Cincinnati, and the Hon. Mr. Cotton, of Indianapolis, served us again as judges. For the last three years we have had the good fortune to secure the services of the present President of the North American Bee-Keepers' Society as judge, and I believe he has given universal satisfaction.

Perhaps I have written too much, but I like to read the different reports of honey exhibits, and I believe it would be for the interest of our industry if bee-keepers would improve the opportunities offered by the different State and local fairs to exhibit the products of the apiary and the implements used in it.

Wagon Works, O.

### OUR CLUBBING LIST.

We supply the American Bee Journal one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both. Club
The American Bee Journal .....	1 00..
and Gleanings in Bee-Culture .....	2 00.. 1 75
Bee-Keepers' Magazine .....	2 00.. 1 25
Bee-Keepers' Guide .....	1 50.. 1 40
The Apiculturist .....	2 00.. 1 70
Canadian Bee Journal .....	2 00.. 1 75
The 6 above-named papers .....	5 50.. 5 00
and Cook's Manual .....	2 25.. 2 00
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Farmer's Account Book .....	4 00.. 3 00
Guide and Hand-Book .....	1 50.. 1 30
Heddon's book, "Success," .....	1 50.. 1 40

### Local Convention Directory

1886.	Time and place of Meeting.
Oct. 16.—Sheboygan Co., at Sheboygan Falls, Wis.	Mrs. H. Hills, Sec., Sheboygan Falls, Wis.
Oct. 16.—Western Iowa, at Stuart, Iowa.	J. E. Pryor, Sec.
Oct. 19.—Central Mich., at Lansing, Mich.	J. Ashworth, Pres.
Oct. 21.—Southern Illinois, at Benton, Ill.	F. H. Kennedy, Sec., Duquoin, Ill.
Oct. 23.—Eureka Springs, at Eureka Springs, Ark.	Dr. S. S. Parcell, Sec., Eureka Springs, Ark.
Oct. 23.—Wabash County, at Wabash, Ind.	Aaron Singer, Sec., Wabash, Ind.
Oct. 27-29.—Western, at Kansas City, Mo.	F. Baldwin, Sec., Independence, Mo.
Nov. 24, 25.—Illinois Central, at Mt. Sterling, Ill.	J. M. Hambaugh, Sec., Springfield, Ill.
Dec. 1, 2.—Michigan State, at Ypsilanti, Mich.	H. D. Cutting, Sec., Clinton, Mich.
1887.	
Jan. 12.—Nebraska State, at Lincoln, Nebr.	H. N. Patterson, Sec., Humboldt, Nebr.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

### SELECTIONS FROM OUR LETTER BOX

**Not "My Friend."**—W. Z. Hutchinson, Rogersville, O. Mich., writes thus on Oct. 1, 1886:

From conversation with bee-keepers, at Fairs and others places, I find there is a general impression that I am the person referred to by Mr. Heddon, in his book, as "my friend." While there is no danger of my reputation suffering from a continuance of such belief, still I dislike sailing under false colors, and prefer to give "honor to whom honor is due," hence I desire to say that I am not "my friend."

**Winter Stores.**—J. H. Andre, Lockwood, N. Y., on Oct. 2, 1886, writes:

I wish to make an explanation concerning my article on page 599. Taken as it reads, it contradicts itself, and also what I have expressed heretofore. My meaning was that I did not wish to winter bees wholly on sugar, but if others desired to do so, I could see no harm to the honey or sugar trade either; and that I believed in stimulative feeding in the spring, and preferred sugar instead of honey for the reasons enumerated. Yesterday was the first day too cold for bees to work in nearly six months.

**Age of Queens.**—Gust Murhard, Portland, Oreg., writes:

On page 596 is a query on the "time of a queen's fertility and usefulness." My observations have been mostly made on Mt. Lebanon queens, both self-reared and imported. A young queen reared this season is in her prime of life, and fertility during the next season, but with the expiration of that season, she has passed the



meridian of her life and fertility, and is, therefore, on the decline, although her fertility is but half exhausted, and will last another season and winter; but in the forepart of the fourth year, her fertility will give out, when she is balled and superseded by the workers, by rearing a young queen, and it is at this time when two queens may be found in a colony. This is my repeated experience, and I do consider a young prolific queen but for the first season good for the honey apiary, as with the expiration of that season she has passed the meridian of her life, and is, therefore, on the decline, upon the appearance of the first symptoms of which the workers' instinct of self-preservation of the race through reproduction by colonial propagation, called swarming, will be aroused. That I am correct, any bee-keeper will find if he will try the Mt. Lebanon bees where a colony with a young prolific queen of the previous season in a large hive will but seldom take to swarming the first season, but sure to do so the next season, if the same queen is still in the hive. This is the result of repeated experience, and it is for the reason that the Mt. Lebanon bees with a young prolific queen of the previous season will not swarm, that I prefer them over all other bees of a pure race for the honey apiary.

**Hive Packing for Winter.**—J. R. Putnam, O. Ills., makes the following inquiries:

1. How will it do to make boxes the same size as the tops of the hives, 5 or 6 inches high, and put on the bottom of them bagging, filling the same with sawdust, and put over the brood-chamber, and the cap or top of the hive over this? 2. Will it absorb so much moisture that it will freeze in the winter, or will it keep dry and keep the bees warm?

[I have now in use 150 of just such boxes filled with chaff and planer-shavings. They perfectly absorb the moisture, both in the cellar and outdoors, but I find that success or failure in wintering does not depend entirely, or mainly, upon the absorption of moisture.—JAMES HEDDON.]

**No Nitrogen in Fat.**—Prof. A. J. Cook, Agricultural College, Mich., on Sept. 30, 1886, writes:

Mr. Samuel Cushman, on page 617, states that I say that nitrogen may be transformed into fat. He quite misunderstood me. There is no nitrogen in fat; nor is there any carbon, hydrogen or oxygen (the elements of fat) in nitrogen. Hence any such statement would be perfectly absurd. I did say, and it is true, that nitrogenous food can be transformed into fat, or into sugar. Feed an animal solely on albuminous food, and the liver still continues to form glycogen, and its consequent sugar. In such a

change the nitrogen of the albuminous food is eliminated, and the proportions of the other elements changed in the wonderful laboratory of nature.

**Sweet Melissa.**—A. C. Tyrrel, Madison, Neb., on Sept. 17, 1886, writes:

I send you a specimen of a honey-plant, called by the Germans "Sweet Melissa," imported from Germany in 1881, which, after two years' trial, I consider one of our best honey-plants, being very hardy, a free bloomer, commencing to bloom in June, and continuing to blossom until killed by frost. It is better liked by bees than white clover, spider-plant or carpenter's square (Simpson's honey-plant). In fact they will fly past all other flowers when "Melissa" is in the field. After once sowing the seed no further effort is necessary, as it is self-sowing. I have seed sufficient for an acre of ground, and next season I will be able to make a more intelligent report. Bees here do exceedingly well, and are now bringing in honey very fast from goldenrod and other wild flowers, of which there are hundreds of acres within easy reach. Please give its botanical name.

[This is *Melissa officinalis*, a plant formerly much cultivated for its citron-like perfume. The name "Melissa" is from the Greek name for bee, on account of the attractions the plants were observed to possess for these honey-gathering insects; so the value of the plant to the apiarist has been long recognized.—T. J. BURRILL.]

**Lime in the Cellar.**—M. M. Cram, Mankato, Minn., asks the following:

Would it be a good plan to put a dish of unslaked lime in the cellar to take up any dampness, and purify the air for the bees?

[I have tried it, and I cannot say that it has any perceptible effect upon successful wintering. To get rid of bee-diarrhea is the problem, and I have succeeded in doing it in very damp cellars, and failed in very dry ones.—JAMES HEDDON.]

**Simmins' Non-Swarming System** is the title of a new English bee-book. The author claims that it will inaugurate a "new era in modern bee-keeping," and states that "it is based upon purely natural principles, and is the only system that can ever be relied upon, because no other condition exists in the economy of the hive that can be applied to bring about the desired result—a total absence of any desire to swarm." It contains 64 pages; is well printed and illustrated. Price 50 cents. It can now be obtained at this office.

## Honey and Beeswax Market.

The following are our very latest quotations for honey and beeswax:

### CHICAGO.

HONEY.—For comb honey, we quote 12@13c. Extracted 6@7c.  
BEESWAX.—23c. R. A. BURNETT,  
161 South Water St.

### NEW YORK.

HONEY.—We quote this year's crop as follows: Fancy white in 1-lb. sections, clean and neat packages, 15@16c.; 2-lbs., 12@13c.; fair to good 1-lbs., 12@14c.; 2-lbs., 10@11c.; fancy buckwheat 1-lbs., 11@12c.; 2-lbs., 9@10c. White clover extracted in kegs and small barrels, 6@7c.; California extracted in 60-lb. cans, 5@5 1-2c.; California comb honey, 10@11c.  
BEESWAX.—Prime yellow, 22@24c.

MCCAUL & HILDRETH BROS.,  
34 Hudson St.

### BOSTON.

HONEY.—The demand has improved. We are selling one-pound packages of white clover honey at 14@15c.; 2-pounds at 13@14c.  
BEESWAX.—25 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

### DETROIT.

HONEY.—Owing to more liberal arrivals the market for honey is lower. Best in 1-lb. sections, 12@13c.  
BEESWAX.—23c.

M. H. HUNT, Bell Branch, Mich.

### CINCINNATI.

HONEY.—Extracted honey brings 3 1-2 @ 7c.; comb honey, 12 to 14c. for good to choice, in the jobbing way.  
BEESWAX.—It is in good demand and arrivals are fair. We pay 20c. for good yellow.

C. F. MUTH & SON, Freeman & Central Ave.

### CLEVELAND.

HONEY.—Choice new honey in 1-lb. sections is selling at 14c.; 2-lbs., 12@13c. Old honey is very dull at 10@12c. Extracted, 6@7c.  
BEESWAX.—25c.

A. C. KENDEL, 115 Ontario Street.

### KANSAS CITY.

HONEY.—The market is good for all grades, and sales are large, while the supply is the same. Prices remain the same. One-pound sections, white clover, 13@14c.; dark 1-lbs., 11@12c.; 2-lbs., 11@12c.; dark 2-lbs., 9@10c.; 1/2-lbs., light, 14@15c. Extracted white clover, 6@7c.; dark, 4@5c.; white sage, 5@6c.  
BEESWAX.—20@22c.

CLEMENS, CLOON & CO., cor. 4th & Walnut.

### MILWAUKEE.

HONEY.—The market for honey of choice quality is firmer and we are trying to establish a higher range of values. We quote 1-lb. sections of white at 12@13c.; 2-lbs., 11@12c.; dark not wanted. Extracted, white, in half barrels and in kegs, 6@7c.; in tin packages, 7@7 1-2c.; in barrels, as to quality, 5@6c.  
BEESWAX.—No demand.

Oct. 2. A. V. BISHOP, 142 W. Water St.

### SAN FRANCISCO.

HONEY.—There is a firmer market for extracted, and especially for comb honey, as the crop of the latter is rather small. Apiarists have sold what they were obliged to dispose of for payment of packages and labor, and they hold the balance back at higher prices. The demand is increasing, and we quote with ready takers, 4@4 1-2c. for choice extracted; 3 1-2 @ 3 3-4c. for amber extracted; and 8@11c. for comb honey in 2-lb. sections; 12@13c. for 1-lb. sections.  
BEESWAX.—It finds buyers at 20@23c.

Sep. 28. SCHACHT & LEMCKE, 122-124 Davis St.

HONEY.—Receipts are light and the market is very quiet. We quote: White extracted, 4@4 1-2c.; amber, 3 1-2 @ 3 3-4c. Comb, 8 1-2 @ 10c. for white.  
BEESWAX.—19@22c.

O. B. SMITH & CO., 423 Front Street.

### ST. LOUIS.

HONEY.—Choice comb, 10@12 1-2c.; latter price is for choice white clover. Strained, in barrels, 3 1-2 @ 4c. Extra fancy of bright color and in No. 1 packages, 1/2 advance on above prices. Extracted in barrels, 4 1-2 @ 5 1-2c.; in cans 6@7c.  
BEESWAX.—Dull at 21c. for prime.

Sep. 30. D. G. TUTT & CO., Commercial St.



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**THOMAS G. NEWMAN & SON,**  
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 At One Dollar a Year.

**ALFRED H. NEWMAN,**  
 BUSINESS MANAGER.

## Special Notices.

**To Correspondents.**—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

**Dr. Miller's Book,** "A Year Among the Bees," and the BEE JOURNAL for one year, we will club for \$1.50.

**A New Crate** to hold one dozen one-pound sections of honey.—It has a strip of glass on each side, to allow the honey to be seen. It is a light and attractive package. As it holds but one tier of sections, no damage from the drippings from an upper tier can occur. We can furnish the material, ready to nail, for 9 cts. per crate. Glass 1½c. per light, extra.

**Yucca Brushes** are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. As each separate fiber extends the whole length of the handle as well as the



brush, they are almost indestructible. When they become sticky with honey, they can be washed, and when dry, are as good as ever. The low price at which they are sold, enables any bee-keeper to have six or more of them, so as to always have one handy. We can supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

**Five Thousand** new subscribers to the BEE JOURNAL is what we have made our calculations for; they will come in clubs between now and next spring. Installments are coming every day.

## Home Market for Honey.

To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, \$2.50. Five hundred will be sent postpaid for \$10.00; or 1,000 for \$15.00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

## System and Success.

All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are reduced, as follows:

For 50 colonies (120 pages).....\$1 00  
 " 100 colonies (220 pages)..... 1 25  
 " 200 colonies (420 pages)..... 1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

**Red Labels** for one-pound pails of honey, size 3x4½ inches.—We have just gotten up a lot of these Labels, and can supply them at the following prices: 100 for \$1.00; 250 for \$1.50; 500 for \$2.00; 1,000 for \$3.00; all with name and address of apiarist printed on them—by mail, postpaid.

**Sweet Clover, or Melilotus Alba,** is almost the only resource for honey now, on account of the late severe July drouth. If the seed is planted in September, it will come up this Fall and bloom next year, in its second season.

We have a large lot of this seed on hand, and offer it at the following **Reduced Prices**, by express or freight:

One pound ..... \$0 20  
 " peck—15 lbs ..... 2 25  
 " bushel—60 lbs ..... 7 00  
 " sack—80 lbs ..... 8 00

It will pay to buy it by the sack and sell it again in smaller quantities.

If you want a chance to make some money, and provide pasturage for the bees during the Fall months, this is your opportunity!

**The Convention History of America** and the AMERICAN BEE JOURNAL for one year, will be clubbed for \$1.15.

As there is Another firm in Chicago by the name of "Newman & Son," we wish our correspondents would write "American Bee Journal" on the envelope when writing to this office. Several letters of ours have already gone to the other firm (a commission house), causing vexatious delay and trouble.

**Our Book Premiums.**—To encourage all our present readers to get one or more additional subscribers we will present 25 cents' worth of books for every new subscriber (accompanied with \$1 for one year's subscription), sent direct to this office. Thus for five new subscribers with \$5, the getter up of a club gets \$1.25 in valuable reading matter, to be selected by himself from our list on the second page of this paper. He will pay you to devote a few hours to the interests of the BEE JOURNAL. Every one who keeps bees ought to take it. We will furnish sample copies free in any quantity to those who intend to get up clubs. We expect to get 5,000 new subscribers before Jan. 1, 1887.

"Cash in Advance" is the rule, but no longer than six months of grace can be allowed on the small sum of one dollar. Subscriptions may commence at any time, and discontinuances may be ordered at any time when arrearages are paid up.

**When Marketing Extracted Honey,** it is a sad blunder to use barrels holding from 300 to 500 pounds—they are too large to be desirable for the trade, too bulky to be handled with care in transportation, and too dear to be lucrative to the producer, for honey put up in such large barrels is subjected to a discount of one cent per pound, because of the difficulty in disposing of it without repacking and dividing into smaller lots.

We have made arrangements by which we can supply the Weekly AMERICAN BEE JOURNAL and the Monthly Bee-Keepers Magazine for 1887, both periodicals for the very small price of \$1.25, or the above and Gleanings for \$2. Three bee-periodicals for the usual price of one!

**Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office, or we will send them all to the agent.

**Colored Posters** for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.

**When Renewing** your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now so cheap that no one can afford to do without it. We will present a Binder for the BEE JOURNAL to any one sending us four subscriptions—with \$4.00—direct to this office. It will pay any one to devote a few hours, to get subscribers.

To any One sending us one new subscriber with his own renewal (with \$2.00), we will present a copy of the new "Convention History of America."



## Advertisements.

**WANTED**, an active, reliable man in every city and town in the State of Illinois to work up Councils of the American Legion of Honor, an insurance organization now having 60,000 members, and we are willing to pay liberally in cash for services rendered in this work. It can be performed at odd and leisure hours without interference with regular business, and is an occupation affording much pleasure to those engaged in it. For full explanation how to go to work and what to do, address

**THOMAS G. NEWMAN,**  
925 West Madison St., CHICAGO, ILLS.

## HOW to WINTER BEES.

See pages 525, 543, 558, 574, 590, 606, 621, and 637, of the American Bee Journal.

**FOR SALE**—25 Colonies of CHOICE ITALIAN BEES, in chaff-packed Hilton hives (single roof). Hives are new and first class; bees have enough stores for winter. Will sell for \$6.00 per colony.

**A. M. APTE**, Grand Rapids, Mich.

## Honey For Sale.

We have a large quantity of the best white EXTRACTED HONEY, in 200-lb. Kegs, for sale, which we will deliver on board the cars at 8 cents per pound. Orders solicited.

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923 & 925 West Madison St., CHICAGO, ILL.

## Vandervort Comb Fdn. Mills,

Send for Samples & Reduced Price-List.

Atf **J. VANDERVORT**, Laceyville, Pa.

## THE AMERICAN APICULTURIST

Will be sent one year and a copy of the 3rd Edition of the Bee-Keepers' Handy-Book, on receipt of \$1.50. The book contains 300 pages and 100 fine illustrations.

**HENRY ALLEY,**  
41A1f WENHAM, MASS.

## Vandervort Foundation Mill.

6 Inch, Price, \$20.00.

It makes the finest extra thin Foundation for comb honey. For Sale by

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**DAVIS' PATENT HONEY CARRIAGE,**  
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**A. J. COOK**, Author and Publisher,  
1A1f Agricultural College, Mich.

## BEESWAX.

We pay 20c. per lb., delivered here, for yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

**THOS. G. NEWMAN & SON,**  
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## THE HORSE,

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A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information.

Price 25 cents—in English or German.

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## The NEW Heddon Hive.

We have made arrangements with the inventor by which we shall make and sell the Heddon Reversible Hive, both at wholesale and retail; nailed and also in the flat.



The engraving gives a good idea of the hive. The brood-chamber is in two sections; also the surplus arrangement, which may be interchanged or inverted at will. The cover, bottom-board, and top and bottom of each sectional case has one-half of a regular bee-space, so that the surplus cases with the sections, may be placed between the two brood-chambers, or the latter may be transposed or inverted—in fact, all parts of this hive are perfectly interchangeable. The brood-frames will ALL be bored for wires.

A SAMPLE HIVE includes the bottom-board and stand; a slatted honey-board, and cover; two 6-inch brood-chambers, each containing 8 frames; two surplus arrangements, each containing 24 one-pound sections, one with wide frames and separators, and the other without separators. This latter chamber can be interchanged with the other stories, but cannot be reversed. It is NAILED AND PAINTED, and ready for immediate use. Price, \$4.00, complete.

It is absolutely essential to order one nailed hive as a pattern for putting those in the flat together correctly.

**HIVES READY TO NAIL**—In filling orders for these hives, in the flat, we make 6 different combinations, so that our customers may make a selection from the sample nailed hive, without waiting for us to quote prices, and the different kinds will be known by the following numbers:

**No. 1** consists of the stand, bottom-board, cover, two 6-inch brood-chambers, 16 frames, and the slatted honey-board. Price, \$1.55 each.

**No. 2** is the same as No. 1, with the addition of one surplus story containing 24 sections without separators—interchangeable, but not reversible. Price, \$2.00 each.

**No. 3** is the same as No. 2, with two surplus stories as therein described. Price, \$2.50 each.

**No. 4** is the same as No. 1, with the addition of one surplus story containing 24 sections in wide frames with separators, which can be reversed, inverted, and interchanged, the same as the brood-chambers. Price, \$2.30 each.

**No. 5** is the same as No. 4, with two surplus arrangements as therein described. Price, \$3.00.

**No. 6** contains all the parts as described in the sample nailed hive. Price, \$2.75 each.

Those desiring the hives without the stand, honey-board or sections, may make the following deductions from the above prices: Stand, 14 cents; honey-board, 8 cents; and the 24 or 56 sections, as the case may be, at 1/4 cent each, respectively.

We will also make the following deductions on quantities ordered all at one time: For 10 or more hives, 5 per cent. discount; for 25 or more hives 7 1/2 per cent.; for 50 or more, 10 per cent.

**THOMAS G. NEWMAN & SON,**  
923 & 925 West Madison St., CHICAGO, ILL.

## FLAT-BOTTOM COMB FOUNDATION,



high side-walls, 4 to 16 square feet to the pound. Circular and samples free

**J. VAN DEUSEN & SONS,**  
Sole Manufacturers,  
Sprout Brook, Mont. Co., N. Y.

